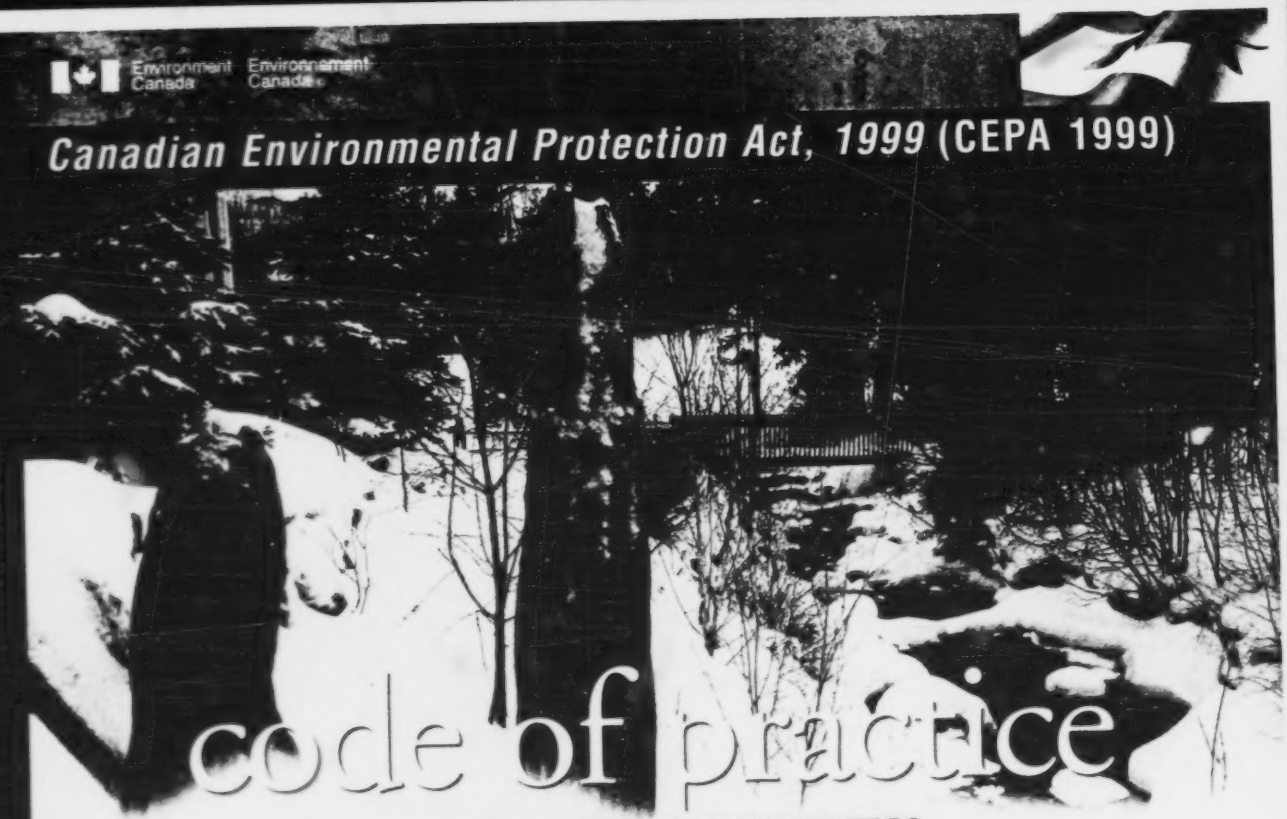
Environment Canada Environnement Canada

Canadian Environmental Protection Act, 1999 (CEPA 1999)



code of practice

FOR THE ENVIRONMENTAL MANAGEMENT OF ROAD SALTS

road salts

APRIL 2004

Canada

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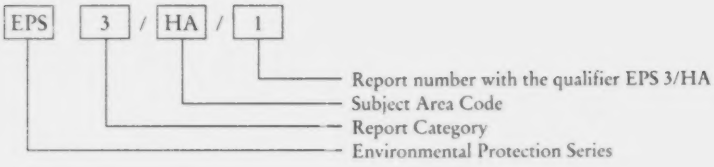

Categories

1 Regulations/Guideline/Codes of Practice
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CE Consumers and the Environment
CI Chemical Industries
FA Federal Activities
FP Food Processing
HA Hazardous Wastes
IC Inorganic Chemicals
MA Marine Pollutants
MM Mining and Ore Processing
NR Northern and Rural Regions
PF Paper and Fibres
PG Power Generation
PN Petroleum and Natural Gas
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RM Reference Methods
SF Surface Finishing
SP Oil and Chemical Spills
SRM Standard Reference Methods
TS Transportation Systems
TX Textiles
UP Urban Pollution
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New subject areas and codes are introduced as they become necessary. A list of EPS reports may be obtained from Environmental Protection Publications, Environmental Protection Service, Environment Canada, Ottawa, Ontario, K1A 0H3, Canada.

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roadsalts
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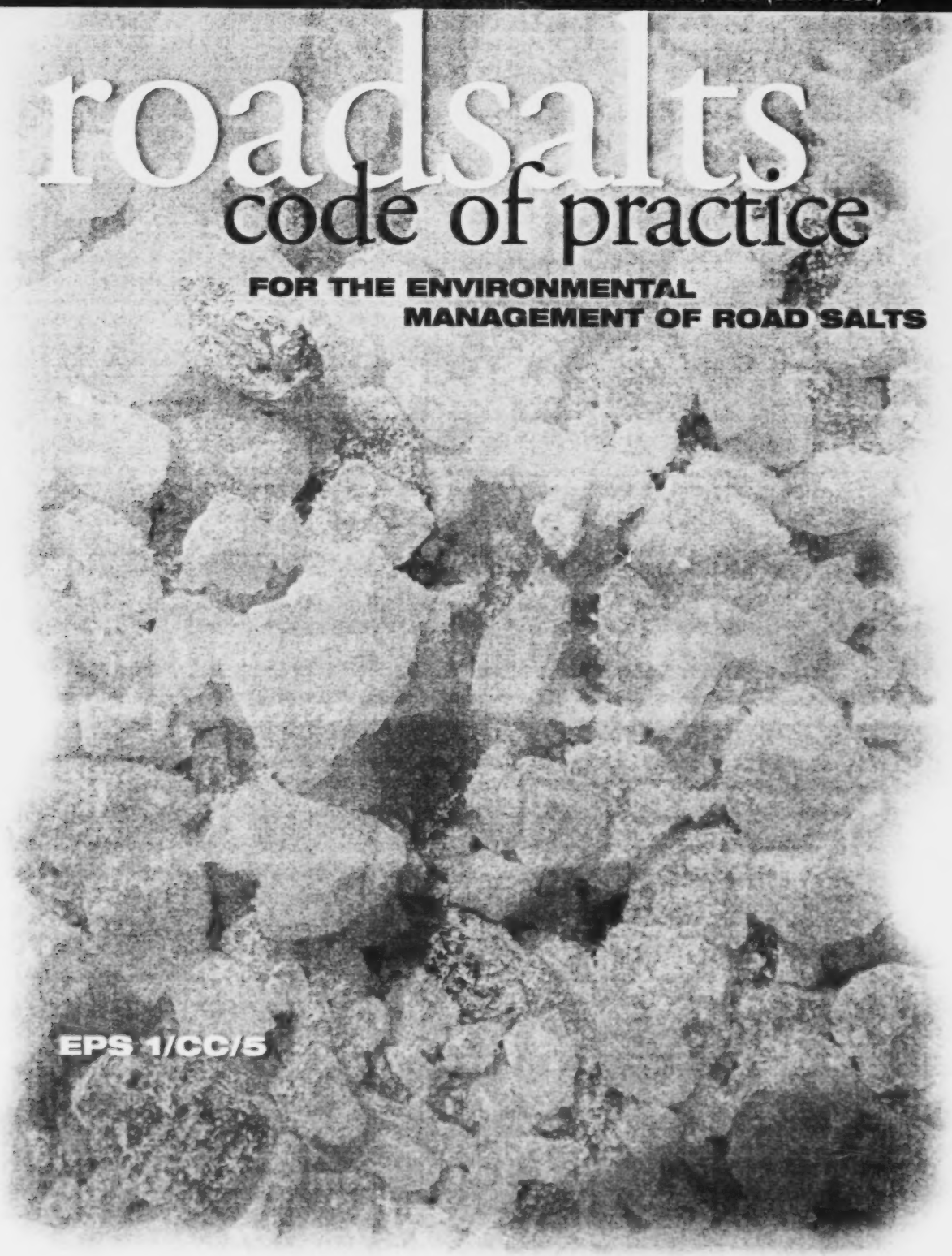
FOR THE ENVIRONMENTAL MANAGEMENT OF ROAD SALTS



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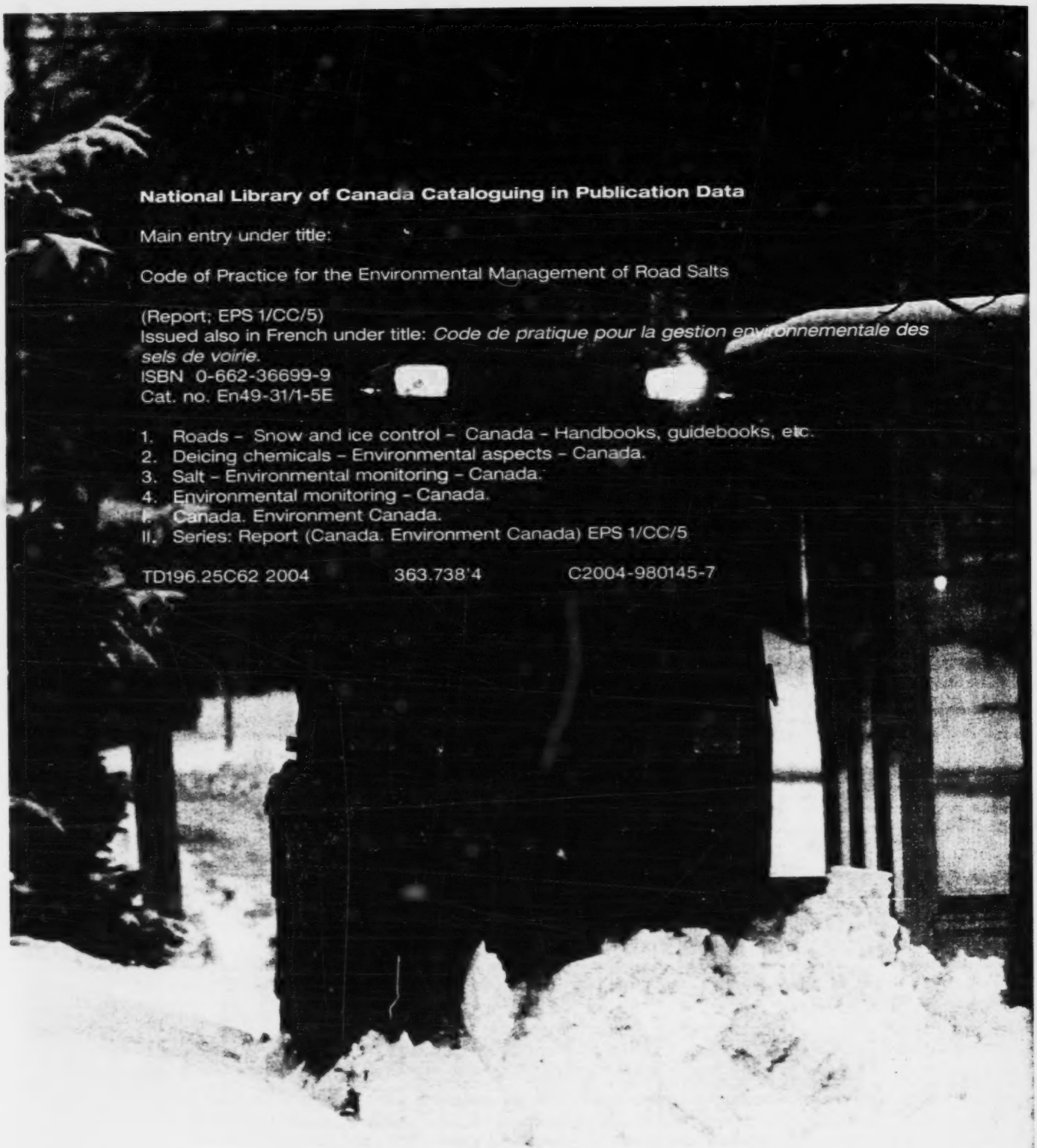

National Library of Canada Cataloguing in Publication Data

Main entry under title:

Code of Practice for the Environmental Management of Road Salts

(Report; EPS 1/CC/5)
Issued also in French under title: *Code de pratique pour la gestion environnementale des sels de voirie.*
ISBN 0-662-36699-9
Cat. no. En49-31/1-5E

1. Roads – Snow and ice control – Canada – Handbooks, guidebooks, etc.
2. Deicing chemicals – Environmental aspects – Canada.
3. Salt – Environmental monitoring – Canada.
4. Environmental monitoring – Canada.
I. Canada. Environment Canada.
II. Series: Report (Canada. Environment Canada) EPS 1/CC/5

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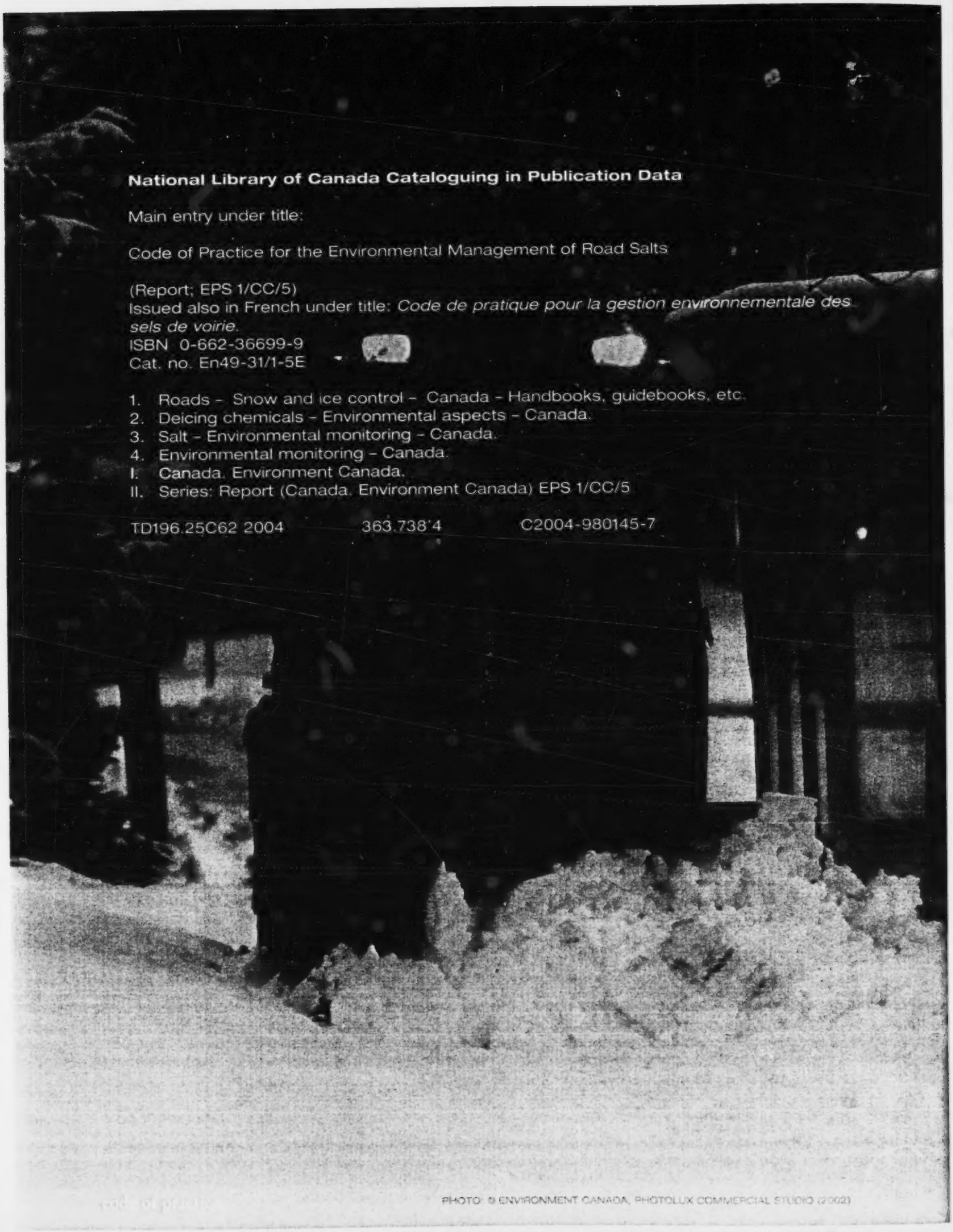

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table of contents

3 ..... **preface**

5 ..... **code of practice for the environmental management of road salts**

5 ..... Interpretation
5 ..... Application
6 ..... Salt Management Plan
7 ..... Best Management Practices
7 ..... Implementation
7 ..... Record-Keeping and Reporting
8 ..... Review of Progress and Need for Further Action

9 ..... **annex a: environmental impact indicators for road salts**

9 ..... Introduction
9 ..... Surface Water
10 ..... Groundwater
10 ..... Soils

11 ..... **annex b: guidance for identifying areas that are vulnerable to road salts**

11 ..... Purpose
11 ..... Considerations

13 ..... **annex c: monitoring and measuring progress**

15 ..... **road salts working group members**

17 ..... **environment canada contact information**

18 ..... **other resources**

The objective of the Code of Practice is to ensure environmental protection while maintaining roadway safety.

preface

On average, 5 million tonnes of road salts are used each year as de-icers on roadways in Canada. Due to concerns about the large quantities of chlorides being released to the environment, road salts underwent a comprehensive five-year scientific assessment under the *Canadian Environmental Protection Act, 1999* beginning in 1995. The road salts assessment covered the chloride salts — sodium chloride (NaCl), calcium chloride ($CaCl_2$), magnesium chloride ($MgCl_2$) and potassium chloride (KCl) — as well as brines used in road de-icing/anti-icing and dust suppression, the salt portion of abrasive mixtures and ferrocyanide additives.

Road salts enter the environment through losses at salt storage and snow disposal sites and through runoff and splash from roadways. The assessment report, published on December 1, 2001 concluded that high releases of road salts were having an adverse effect on freshwater ecosystems, soil, vegetation and wildlife. The publication of this report initiated the risk management process to address the risks posed to the environment by road salts.

To assist Environment Canada with this complex task, a multistakeholder working group was formed, which included members from provincial and municipal road authorities, federal and provincial governments, industry, environmental non-governmental organizations and related associations (see the list of working group members at the end of this Code). This working group worked together over a two-year period towards the development of the Code of Practice.

The Transportation Association of Canada worked in parallel to the working group to produce the *Syntheses of Best Practices.* The syntheses are a detailed resource on winter maintenance practices and supplement the recommendations made within the Code.

The main objective of the Code of Practice is to ensure environmental protection while maintaining roadway safety. There are two main recommendations in this Code:

1) the development of salt management plans, based on a review of existing road maintenance operations, identification of means and goal-setting to achieve reductions of the negative impacts of salt releases; and
2) the implementation of best management practices in the areas of salt application, salt storage and snow disposal, as outlined in the Transportation Association of Canada's *Syntheses of Best Practices.*

Monitoring and reporting aspects are also included in the Code. The information collected will play an essential role in evaluating the progress achieved.

This Code of Practice does not address the use of road salts on parking lots and private properties, use as dust suppressants or use of ferrocyanide additives. These applications are being addressed separately by Environment Canada.

When applied, the recommendations made within this Code will result not only in benefits to the environment, but will also have the potential to result in benefits to road authorities, including more efficient operations, improved roadway safety and savings in material usage. Since the beginning of the assessment process, many road authorities across Canada have taken early actions to improve their salt management practices. Case studies documenting the resultant benefits of these practices, as well as other related information on road salts management, can be found on Environment Canada's road salts website at **http://www.ec.gc.ca/nopp/roadsalt/.**

Environment Canada gratefully acknowledges the contributions of all working group participants who assisted in developing this Code of Practice. Extended thanks go out to the Transportation Association of Canada for the development of the *Syntheses of Best Practices.*

Inquiries and comments on this Code of Practice, as well as requests for additional copies of the Code, should be directed to:

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code of practice for the environmental management of road salts

INTERPRETATION

1. The following definitions apply in this Code:

   "organization" means:

   (*a*) any public entity that uses or that is responsible for the use of road salts on public roads in Canada; or

   (*b*) any company that holds a concession or lease to manage a public road, unless the public entity from which the company holds that concession or lease has developed a salt management plan that the company agrees to implement.

   "road salts" mean road salts that contain inorganic chloride salts with or without ferrocyanide salts.

   "TAC Syntheses of Best Practices" means the *Syntheses of Best Practices — Road Salt Management* appended to the Salt Management Guide published by the Transportation Association of Canada (TAC) in 1999, ISBN 1-55187-136-X, and updated in September 2003, as amended from time to time.

   "vulnerable area" means an area particularly sensitive to road salts where additional salt management measures may be necessary to mitigate the environmental effects of road salts in that area; vulnerable areas should be identified as per the guidance provided in Annex B of the Code.

2. Recommendations in this Code propose preventive or control actions aimed at the environmental management of road salts to protect the Canadian environment.

3. This Code does not replace nor supersede any laws or regulations adopted by federal, provincial, territorial or municipal authorities in relation to, among other things, environmental protection, road safety or use of road salts.

4. This Code is not the sole guidance available to users of road salts in Canada, and is intended to be used in conjunction with the Salt Management Guide and Syntheses of Best Practices developed by the Transportation Association of Canada and any federal, provincial, territorial or municipal maintenance standards. Nothing in this Code should be construed as a recommendation to take action to the detriment of road safety.

APPLICATION

5. This Code applies to:

   (*a*) organizations that use more than 500 tonnes of road salts per year (five-year rolling average); and

   (*b*) organizations that have vulnerable areas in their territory that could be potentially impacted by road salts.

6. This Code does not apply to road salts used for domestic purposes, or for private or institutional uses.

SALT MANAGEMENT PLAN

7. An organization that meets the criteria of section 5 should prepare and implement a salt management plan that contains best management practices to protect the environment from the negative impacts of road salts. The management plan should cover all activities which may result in release of road salts to the environment, such as salt storage, application of salts on roads, and disposal of snow containing road salts.

8. An organization that does not meet the criteria of section 5 should consider implementing the best management practices that are relevant to its local conditions in order to protect the environment from the negative impacts of road salts.

9. The salt management plan should:

   (*a*) provide a statement recognizing the role of a salt management plan in achieving improved environmental protection without compromising road safety;

   (*b*) provide a commitment or endorsement of the plan at the highest level in the organization;

   (*c*) identify activities or operations through which road salts may be released to the environment and goals to achieve reduction of the negative environmental impacts of these releases;

   (*d*) assess current practices against recommended best management practices, including those contained in the TAC Syntheses of Best Practices;

   (*e*) contain documentation of all policies and procedures applicable to the salt management plan;

   (*f*) include communication activities necessary to inform the organization and the public of the salt management plan and related policies and procedures;

   (*g*) contain a training program for all personnel when managing or performing winter maintenance activities involving the use of road salts;

   (*h*) provide response procedures to react to uncontrolled releases of road salts that could result in environmental impacts;

   (*i*) ensure monitoring of actions to measure the plan's effectiveness;

   (*j*) include record-keeping as described in section 15 of this Code;

   (*k*) include a procedure for yearly review of the plan by the organization with continual improvement of salt management practices and the salt management plan as better management practices become known and progress is achieved; and

   (*l*) establish and implement corrective actions to address deficiencies identified in the operations of the organization to which the plan applies.

10. The environmental impact indicators listed in Annex A, the guidance for identifying vulnerable areas provided in Annex B and the data gathering and reporting provisions in Annex C of this Code should be considered during the development and implementation of the salt management plan.

11. The content and level of detail of the salt management plan may vary according to the organization's size and capability.

BEST MANAGEMENT PRACTICES

12. It is recommended that best management practices referred to in sections 7 and 8 and found in the TAC Syntheses of Best Practices be selected according to the following objectives:

    (*a*) *Salt Storage*: The objective is the prevention or control of releases from existing and new sites. In pursuing this objective, the following practices should be considered: coverage of salt piles and blended salt-sand piles, handling practices that avoid uncontrolled releases, drainage management, wash water collection and treatment, training of personnel, and monitoring of the effectiveness of the facility.

    (*b*) *Snow Disposal*: The objective is the control of releases from existing and new sites. In pursuing this objective, the following practices should be considered: location and construction of the sites to take into account operational and environmental factors, drainage management, training of personnel and monitoring of the effectiveness of the facility.

    (*c*) *Salt Application*: The objective is the reduction of the negative impacts of road salts by delivering the right amount of road salts in the right place at the right time. In pursuing this objective, consideration should be given to using the most recent advancements in the application of winter maintenance anti-icing and de-icing materials, winter maintenance equipment, and road weather information and other decision support systems. As well, the training of personnel and the monitoring of the effectiveness of road salt application techniques should be considered.

IMPLEMENTATION

13. An organization that meets the criteria of section 5 should prepare a salt management plan within one year after publication of this Code in the *Canada Gazette*. It is recommended that implementation of the plan begins in the financial period or fiscal year immediately following the preparation of the plan.

14. It is recommended that organizations hiring agents or contractors ensure that those agents or contractors comply with any measures in the salt management plan related to their work.

RECORD-KEEPING AND REPORTING

15. An organization that meets the criteria of section 5 should:

    (*a*) provide to the Minister of the Environment

        (*i*) notification of intent to prepare a salt management plan within 6 months after publication of this Code in the *Canada Gazette* or within 6 months of becoming subject to this Code, whichever is later; and

        (*ii*) information specified in Annex C of this Code, in the form provided by the Minister, by June 30 of the year following the year that the organization becomes subject to this Code and every year thereafter;

    (*b*) keep records of all data reported, copies of the salt management plan, plan revisions, training records, and any yearly review reports, including those that contain corrective action;

    (*c*) retain the information referred to in paragraph (*b*) for seven years; and

    (*d*) make the information referred to in paragraph (*b*) available to the Minister of the Environment upon request.

REVIEW OF PROGRESS AND NEED FOR FURTHER ACTION

16. In order to monitor the effectiveness of this Code, organizations will be invited to cooperate with the Minister of the Environment in the preparation of progress reports on the development and implementation of salt management plans.

17. (*a*) Five years after publication of this Code in the *Canada Gazette*, organizations will be invited to cooperate with the Minister of the Environment and to participate in an evaluation of progress achieved towards prevention and reduction of the negative impacts of road salts on the environment through the implementation of this Code.

(*b*) The review will consider the level of implementation of best management practices, such as those found in the TAC Syntheses of Best Practices, the progress accomplished towards preventing or reducing the negative impacts of road salts on the Canadian environment and road safety monitoring data.

(*c*) This review will help determine if other steps or programs are needed to further prevent or reduce negative impacts of road salts on the environment.

annex a: environmental impact indicators for road salts

INTRODUCTION

The purpose of Annex A is to provide guidance by identifying concentrations of chloride in the environment at which certain negative environmental impacts are likely to occur. A series of thresholds have been identified for different environmental compartments: surface water, groundwater and soil. Concentrations above these levels have the potential to result in negative impacts. In all cases, natural background concentrations should be considered in evaluating regional and local impacts. Data in this annex are based on findings presented in the Road Salts Priority Substances List Assessment Report.

SURFACE WATER

The following paragraphs present certain thresholds associated with concentrations of chloride in surface water.

Figure 1 presents background concentrations of chloride in Canadian surface waters and concentrations of chloride that cause adverse biological effects. The column on the left provides a range of average background concentrations for five regions in Canada. The variation in background concentrations of chloride is greatest in western Canada and markedly decreases moving eastward to the Great Lakes area and Atlantic Canada. The lowest variation in chloride concentration is reported on the Canadian Shield.

The right column of Figure 1 is useful for identifying the levels of chloride in surface waters above and below concentrations reported to cause certain negative impacts. Concentrations of chloride of approximately 140 mg/L should be protective of freshwater organisms for short-term exposure; concentrations less than 35 mg/L are likely protective during long-term exposures. Overall, approximately 5 percent of species are predicted to experience effects from chronic exposure to concentrations of chloride of about 210 mg/L, while 10 percent of species would be affected at concentrations of about 240 mg/L.

Other jurisdictions have derived guidelines for the exposure of aquatic organisms to chlorides (Fig. 1). The United States Environmental Protection Agency (EPA) developed a similar guideline. Overall, the EPA guideline indicates that biota, on average, should not be affected unacceptably if the four-day average concentration of chloride does not exceed 230 mg/L more than once every three years. Similarly, the biotic impacts would be minimal if the one-hour average chloride concentration does not exceed 860 mg/L more than once every three years.

Lakes located in Canada typically undergo vertical mixing every spring and fall as a result of a change in water temperature. Dissolved salts can hinder the vertical mixing of water bodies as dense, salt-laden water sinks to deeper layers (meromixis). The absence of vertical mixing can ultimately lead to a depletion of oxygen in the lower layers of lakes and a reduction in the cycling of nutrients. Meromictic conditions have developed in lakes with salt concentrations of approximately 60 mg/L Na and 105 mg/L Cl. Small, deep lakes are the most vulnerable, although concentrations associated with meromixis will vary greatly, depending on local conditions.

GROUNDWATER

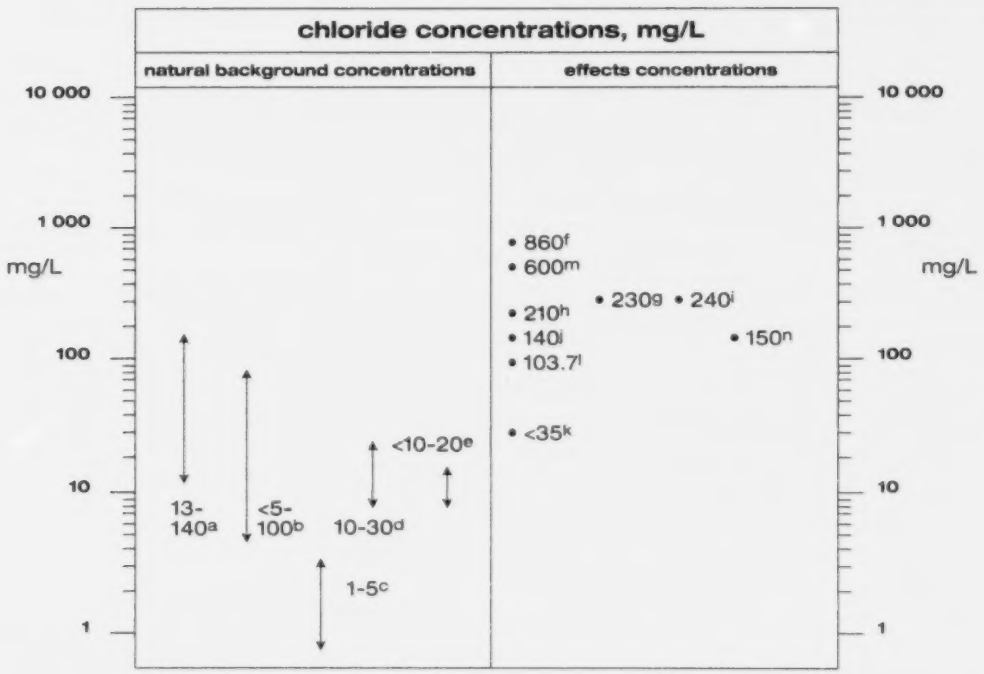
Chloride concentrations identified for freshwater biota will likely be protective of groundwater biota and groundwater that emerges into surface water.

A significant proportion of road salts may be contained within the groundwater system. The time taken to reach an equilibrium where salt inputs are balanced by salt outputs depends on local hydrogeological conditions and may take from a few years to hundreds of years.

SOILS

Soil integrity, soil organisms and vegetation will generally be protected at concentrations of about 60 mg Na/L and 90 mg Cl/L. Damage to plants has also been observed at soil concentrations of 16 mg Na/kg and 30 mg Cl/kg (dry weight). Changes in natural plant communities have been recorded in areas affected by road salts runoff and liquid salt spray from moving vehicles.

Figure 1 Comparison of natural background concentrations of chloride in Canadian surface water and thresholds for adverse biological effects. The column on the left provides an overview of average background concentrations for five regions in Canada. The column on the right identifies levels at which certain impacts may occur. Data in this figure helps characterize average background concentrations for different areas and impacts that can occur at different concentrations.



a British Columbia (Mayer *et al.*, 1999)
b Prairies (Mayer *et al.*, 1999)
c Canadian Shield (Mayer *et al.*, 1999)
d St. Lawrence Lowlands and Great Lakes (Mayer *et al.*, 1999)
e Atlantic Canada (Mayer *et al.*, 1999)
f Species should not be negatively affected if one-hour average concentration of Cl does not exceed value more than once every 3 years (U.S. EPA 1988)
g Species should not be negatively affected if 4-day average concentration of Cl does not exceed value more than once every 3 years (U.S. EPA 1988)
h Based on predicted data, 5% of species would be negatively affected (median lethal concentration) [Evans and Frick, 2001]
i Based on predicted data, 10% of species would be negatively affected (median lethal concentration) [Evans and Frick, 2001]
j Estimated no affects value derived from *Ceriodaphnia dubia* 4-day LC_{50} (Cowgill and Milazzo, 1990)
k Estimated no affects value derived from 33-day LOEC survival for fathead minnow (Birge *et al.*, 1985)
l Chloride concentration in lower layers of water body associated with meromixis (Smol *et al.*, 1985)
m To protect freshwater aquatic life from acute and lethal effects, the maximum concentration of total chloride at any time should not exceed this value. (*BC Ambient Water Quality Guidelines for Chloride, 2002*)
n To protect freshwater aquatic life from chronic effects, the 30-day average concentration of total chloride should not exceed this value. (*BC Ambient Water Quality Guidelines for Chloride, 2002*)

annex b: guidance for identifying areas that are vulnerable to road salts

PURPOSE

The purpose of Annex B is to provide guidance for organizations to consider when identifying areas of a receiving environment that may be particularly sensitive to road salts. Once a vulnerable area has been identified, organizations may then determine the level of vulnerability and the need to implement additional salt management measures.

Additional salt management measures in vulnerable areas may include:

- using technologies that further optimize the use of road salts;
- using environmentally, technically and economically feasible alternatives to road salts;
- increasing monitoring and measuring of chlorides and/or their impacts;
- locating patrol yards and snow disposal sites outside of vulnerable areas; or
- considering location and protection of vulnerable areas in the design of new roads and/or upgrading of existing roads.

It is important to note, when identifying vulnerable areas, that an area may be vulnerable either to infrequent but heavy addition of road salts or to light but frequent addition of road salts.

Organizations may consider consulting with entities that conduct, under their programs, work that could be relevant to the identification of areas vulnerable to road salts. In addition, organizations may wish to exchange information with other organizations adjacent to or having common authority over these vulnerable areas, and consult with their constituents.

Notes:

- Subsection 36(3) of the *Fisheries Act* prohibits the deposit of a deleterious substance into water frequented by fish. Nothing in this Annex should be interpreted as an authorization or recommendation to ignore this prohibition.
- The recommendations described above are intended to complement road salt management procedures already established in areas identified, designated or protected by a local, provincial, territorial, aboriginal, national or international system or body as ecologically significant or ecologically important.

CONSIDERATIONS

When identifying vulnerable areas, organizations should consider:

1. areas draining into bodies of water, such as:
   (*a*) lakes and ponds with low-dilution and long residence times;
   (*b*) watercourses that experience the cumulative effects of a dense network of highways; and
   (*c*) provincially significant wetlands adjacent to roadways

   where the addition of road salts has the potential to significantly raise the chloride concentration of the water to the point where it could present a threat of serious or irreversible environmental damage;

2. areas draining into small, moderately deep lakes, where the addition of road salts has the potential to create layers of water of

different salinity within the lake that prevent normal vertical mixing of the water (meromictic conditions);

3. areas where the addition of road salts has the potential to raise the chloride concentration, after mixing, to levels that could harm local fish or fish habitat;

4. areas adjacent to salt-sensitive native or agricultural vegetation, where the addition of road salts has the potential to cause severe reductions in flowering and fruiting, severe foliar, shoot and root injury, growth reductions, or reductions in germination and seedling establishment caused by elevated soil levels of sodium and chloride or aerial spray of sodium and chloride;

5. areas where the addition of road salts has the potential to harm the integrity of a life cycle (e.g. spawning grounds, nursery, rearing, food supply and migration areas for birds);

6. areas where the addition of road salts has the potential to harm a habitat necessary for the survival or recovery of a wildlife species listed on the List of Wildlife Species at Risk (Schedule 1 of the *Species at Risk Act*) where the area is identified as the species' critical habitat in the recovery strategy or in the action plan for the species established under that Act;

7. areas draining into sources of drinking water (surface water or groundwater, including wells), where the addition of road salts has the potential to raise the chloride concentration of the water to the point where it could not be used as a source of drinking water. Due regard should be given to background concentrations of chloride and other possible sources of chloride in making such a determination;

8. areas draining into groundwater recharge zones or that have an exposed or shallow water table, with medium to high permeability soils, such as medium to coarse sand and gravel, where the addition of road salts has the potential to significantly raise the chloride concentration of the groundwater to the point where it could present a threat of serious or irreversible environmental damage.

annex c: monitoring and measuring progress

The purpose of Annex C is to provide a common approach to monitoring and measuring progress in road salt use, the implementation of best management practices with respect to road salts, and the concentration of road salts in the environment. Information collected will be used in conjunction with additional winter severity weather data provided by the Meteorological Service of Canada, environmental monitoring data collected from case studies and water quality monitoring programs, and road safety data provided by Transport Canada to determine the extent and effectiveness of implementation of the Code of Practice.

Information to be provided to Environment Canada by organizations is described below.

1. Background Information

Organization
- Name and address;
- Technical contact, telephone and fax numbers, and electronic mail address;
- Population (municipalities only).

Salt Management Plan
- Existence of a salt management plan;
- Date of approval of the salt management plan;
- Date of latest revision of the salt management plan, where applicable.

Road Length Serviced
- Total length of road on which salt is applied in the organization's jurisdiction.

Winter Severity
- Organization's rating of the severity of the winter;
- Municipal Organizations Only — Total number of events requiring salt application during the winter averaged over all districts within the organization's jurisdiction.

2. Materials Used
- Total quantity of road salts used for winter road maintenance;
- Description of non-chloride materials used for winter road maintenance.

3. Material Storage
- Organization's objectives for implementing best management practices related to material storage, as indicated in its salt management plan;
- State of implementation of each management practice.

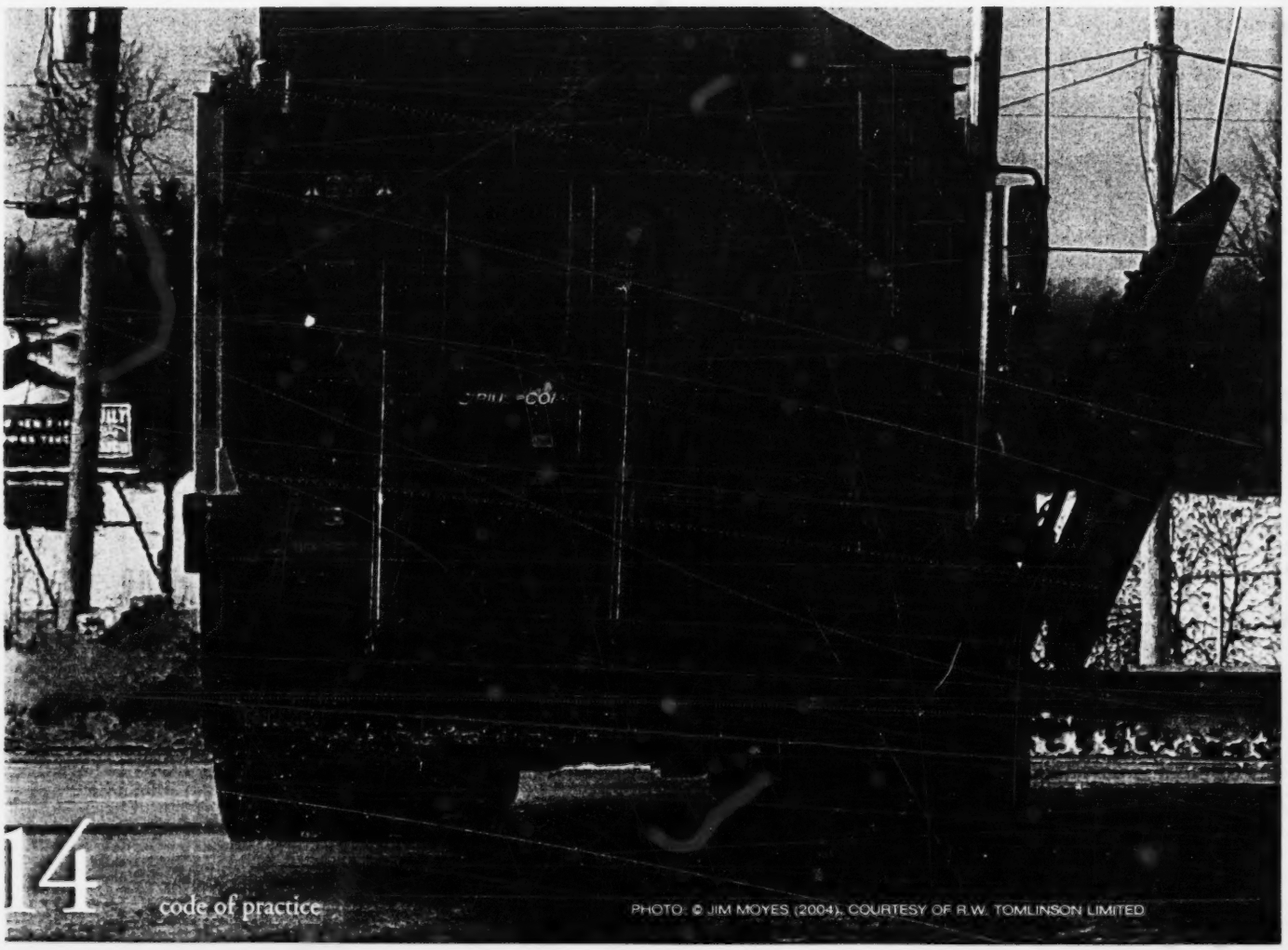
4. Winter Road Maintenance Equipment and Road Salt Application Practices
- Organization's objectives for implementing best management practices related to road maintenance equipment and salt application practices, as indicated in its salt management plan;
- State of implementation of each management practice;
- State of calibration program for equipment.

5. Snow Disposal
- Organization's objectives for implementing best management practices related to snow disposal, as indicated in its salt management plan;
- State of implementation of each management practice.

6. **Winter Road Maintenance Training**
   - Existence of a winter road maintenance training program related to the organization's salt management plan;
   - Organization's objectives for training of personnel, as indicated in its salt management plan;
   - State of training of personnel.

7. **Areas Vulnerable to Road Salts**
   - Existence of areas vulnerable to road salts;
   - Description of additional salt management practices undertaken by the organization in identified vulnerable areas, where applicable.

8. **Environmental Monitoring**
   - Chloride concentration and frequency of sampling at each sampling location, if available.



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Graham	**Gilfillan**	Insurance Corporation of British Columbia
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Yvan	**Grenier**	Association des propriétaires de machinerie lourde du Québec
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Zvjezdan	**Lazic**	Saskatchewan Highways & Transportation
Geoff	**Leach**	Integrated Maintenance & Operations Services Inc.
Guy L.	**Leblanc**	Canadian Salt Company Ltd.
Malcolm B.	**Leggett**	NSC Minerals Inc.
Nadine	**Levin**	Environment Canada
Carol	**MacQuarrie**	New Brunswick Department of Transportation
Bernard	**Madé**	Environment Canada
James	**Maillet**	Canadian Salt Company Ltd.
Bill	**Mander**	Environment Canada
Luc	**Marineau**	City of Ottawa, Ontario

Gary	**Mayhew**	Alberta Roadbuilders and Heavy Construction Association
Larry J.	**McCabe**	Association of Municipalities of Ontario
Stephen	**McCanny**	Parks Canada
Donald J.	**McDonald**	County of Stormont, Dundas, and Glengarry, Ontario
Bruce	**McPhail**	City of Winnipeg, Manitoba
Kevin G.	**Mercer**	RiverSides Stewardship Alliance
Patrick	**Morel-à-l'Hussier**	Natural Resources Canada
David	**Morin**	Environment Canada
Sandi	**Moser**	Environment Canada
Ron	**Newhook**	Health Canada
James	**Oxford**	City of Mount Pearl, Newfoundland
Ian	**Parrish**	Ontario Ministry of the Environment
Josée	**Portugais**	Environment Canada
Paul	**Richard**	Nova Scotia Department of Transportation & Public Works
Amber	**Robson**	Environment Canada
Steve	**Samis**	Department of Fisheries and Oceans
Randy	**Sanderson**	Transport Canada
Jackie	**Scott**	Natural Resources Canada
Gary	**Shaw**	County of Grey, Ontario
Heather	**Smith**	Environmental Defence Canada
Russ	**Smith**	Transport Canada
Don	**Snider**	Alberta Transportation
Henry	**Swierenga**	Ontario Federation of Agriculture
Emile-J.	**Thérien**	Canada Safety Council
Robert	**Tremblay**	Insurance Bureau of Canada
Sarah	**Wells**	Transportation Association of Canada
Gary	**Welsh**	Canadian Public Works Association City of Toronto, Ontario
Vic	**Weselak**	Manitoba Transportation & Government Services

environment canada contact information

For questions about this Code of Practice or for more information about salt management, contact the Chemicals Control Branch or Environment Canada's regional offices:

Chemicals Control Branch
c/o Road Salts Code of Practice
Environment Canada
351 St. Joseph Blvd, 12th Floor
Gatineau, Quebec K1A 0H3
Tel.: (819) 997-1640
Fax: (819) 994-0007
Email: roadsalts@ec.gc.ca

Newfoundland and Labrador, Prince Edward Island, Nova Scotia and New Brunswick
Environmental Protection Branch –
Atlantic Region
Environment Canada
Queen Square
45 Alderney Drive, 16th Floor
Dartmouth, NS B2Y 2N6
Tel.: (902) 426-9590
Fax: (902) 426-8373

Quebec
Environmental Protection Branch –
Quebec Region
Environment Canada
105 McGill Street, 4th Floor
Montréal, QC H2Y 2E7
Tel.: (514) 283-4670
Fax: (514) 283-4423

Ontario
Environmental Protection Branch –
Ontario Region
Environment Canada
4905 Dufferin Street
Downsview, ON M3H 5T4
Tel.: (416) 739-5872
Fax: (416) 739-4342

Manitoba, Saskatchewan, Alberta, Northwest Territories and Nunavut
Environmental Protection Branch –
Prairie and Northern Region
Environment Canada
4999–98th Avenue
Edmonton, AB T6B 2X3
Tel.: (780) 951-8890
Fax: (780) 495-2758

British Columbia
Environmental Protection Branch –
Pacific and Yukon Region
Environment Canada
201–401 Burrard Street
Vancouver, BC V6C 3S5
Tel.: (604) 666-9862
Fax: (604) 666-6800

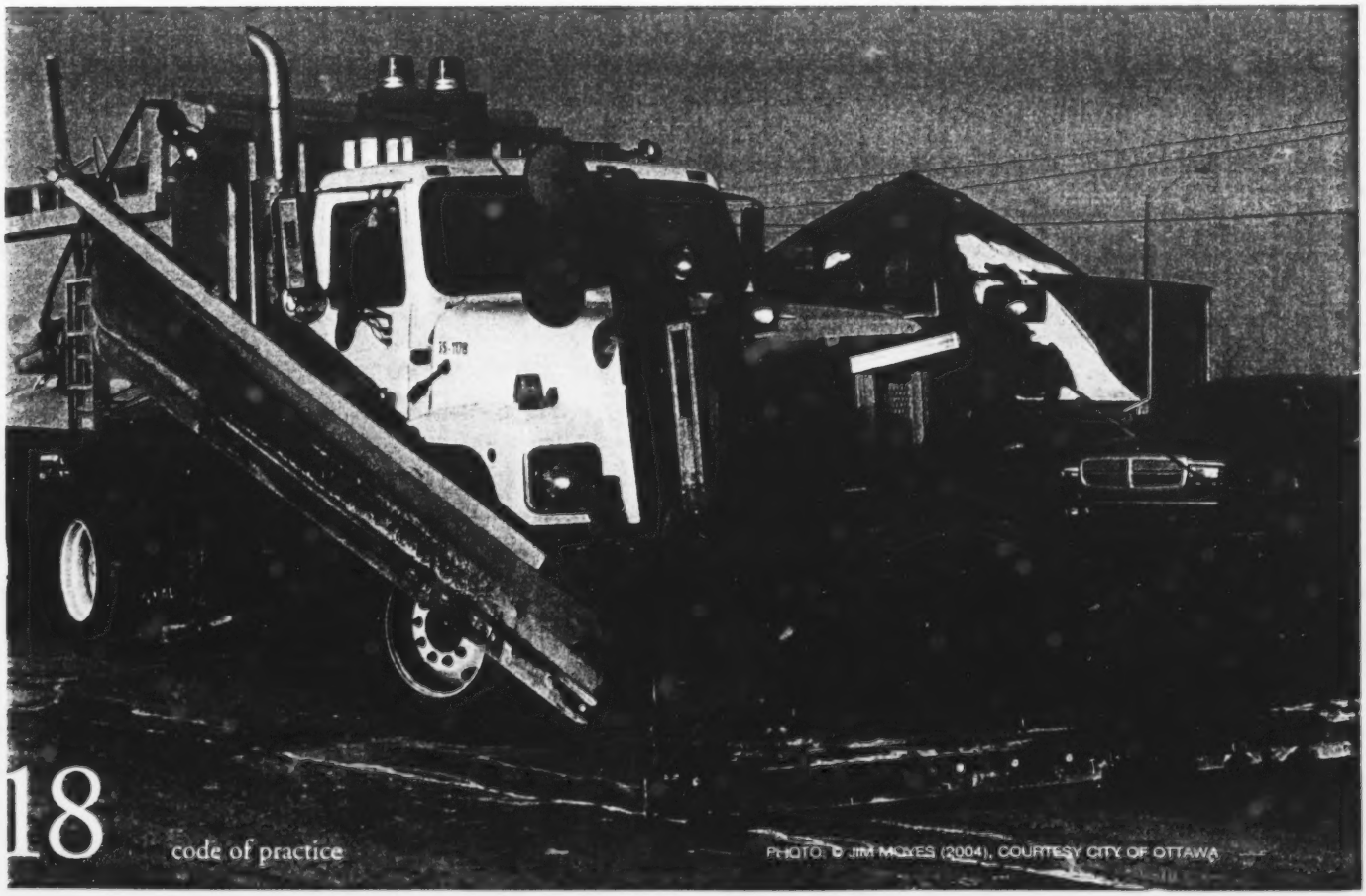
Yukon
Environmental Protection Branch –
Yukon District
Environment Canada
91782 Alaska Highway
Whitehorse, YT Y1A 5B7
Tel.: (867) 667-3402
Fax: (867) 667-7962

other resources

The *Syntheses of Best Practices – Road Salt Management* referred to in this Code of Practice can be obtained through the Transportation Association of Canada at the address below and are also available on their web site at: **www.tac-atc.ca.**

Transportation Association of Canada
2323 St. Laurent Blvd.
Ottawa, ON K1G 4J8
Tel.: (613) 736-1350

Additional information on road salt management can be obtained from the TAC web site mentioned above and from the Environment Canada road salts web site at: **www.ec.gc.ca/nopp/roadsalt.**



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